Water Filtration Plant Operation – Draft Agenda

Day One: AM

1. Introductions and course overview.
2. Power points covering filter terminology.
3. Power point covering basic parts of a filter and there function for both pressure and gravity filters.
4. Use on-site filtration systems to review information presented and identify actual components.
5. Have operators identify flow pattern through both gravity and pressure filter.
6. Discuss types of media available for treating various water quality issues.
7. Identify and cover purpose of aeration methods used in filtration process

Day One PM

1. Demonstrate water testing procedures for iron, manganese, turbidity, total coliform bacteria.
2. Allow operators to practice performing water testing procedures.
3. Identify types of chemical additions and their purpose.
4. Calculate chemical dosages and filter loading rates.

Day Two AM

1. Cover steps in filter backwashing procedure.
2. Take operators through automated control screens.
3. Backwash filters and record observations.
4. Identify and discuss maintenance of filtration system.
5. Repair and calibration of chemical feed pumps.
6. Discuss common operating problems associated with overall process.

Day 2 PM

1. Cover basics of water chemistry.
2. Focus on water quality and impacts on filtration process.
3. Investigate arsenic removal techniques and oxidation of arsenic.

Day 3 AM

1. Lecture on the chlorine curve and breakpoint chlorination.
2. Discuss the interference of ammonia and organic material on disinfection process.
3. Analyze tap water for chlorine residual.
4. Cover EPA regulations related to disinfection by-products.

Day 3 PM

1. Explain the EPA Lead & Copper Rule.
2. Cover treatment techniques applicable to meet water stability requirements.
3. Open time for review and Q & A.
4. Test participants on materials covered in course